

From: [Nickel, Brian](#)
To: [Christofferson, Cara E](#)
Subject: RE: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments
Date: Thursday, November 12, 2020 12:00:00 PM
Attachments: [Cormix Modeling Memo w Temp.docx](#)

Cara:

In response to the comment that Sean made on Page 6-19 of the draft BE, I've completed additional Cormix modeling to evaluate the discharge's effect upon the temperature of the receiving water, as described in the expanded Cormix memo (attached).

The results show that the discharge has a very small effect on the temperature of the river and will not block salmonid migration or cause thermal shock.

Thanks,

Brian Nickel, E.I.T.

Environmental Engineer
US EPA Region 10 | Water Division | NPDES Permits Section
Voice: 206-553-6251 | Toll Free: 800-424-4372 ext. 6251 | Fax: 206-553-1280
Nickel.Brian@epa.gov
<https://www.epa.gov/npdes-permits/about-region-10s-npdes-permit-program>
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From: Nickel, Brian
Sent: Monday, November 02, 2020 2:11 PM
To: Christofferson, Cara E <cara_christofferson@fws.gov>
Subject: RE: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments

Cara:

Attached is a copy of the draft BE with responses to Sean's comments.

Regarding the Cormix memo, Table 2 lists the downstream (x) distances to achieve the chronic dilution factor of 38.9:1 under the various scenarios evaluated. It also provides the downstream distances to achieve the **preliminary** acute dilution factor of 19.4:1. However, the Tribe intends to establish acute mixing zones meeting the criteria in Section 4.3.3 of the TSD, and will use the worst-case (lowest) dilution factors listed in the right-hand column in Table 2 for each season to do so. Since the Tribe does not intend to authorize an acute mixing zone providing a dilution factor of 19.4:1, the distances to reach the 19.4:1 dilution factor are listed for context only; those distances are not part of the mixing zones that the Tribe intends to authorize.

More detailed results (directly from the model output) for those two critical acute mixing zones (or "toxic dilution zones" in Cormix's terminology) are provided in Section 5.2.1 of the report, including

the downstream (“x”) distances. Those distances are:

October – May (4.33:1): 0.19 meters
June – September (1.48:1): 0.05 meters

However, the horizontal trajectory to the acute dilution factor was primarily in the lateral (“y”) direction, so the “downstream” distance isn’t particularly meaningful in this case (it is for the chronic mixing zone, which extends much further downstream). The horizontal distances, including both the downstream (“x”) and lateral (“y”) components are:

October – May (4.33:1): 9.82 meters
June – September (1.48:1): 2.33 meters

Thanks,

Brian Nickel, E.I.T.

Environmental Engineer

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From: Christofferson, Cara E <cara_christofferson@fws.gov>

Sent: Monday, November 02, 2020 10:31 AM

To: Nickel, Brian <Nickel.Brian@epa.gov>

Subject: Re: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments

Hi Brian,

I was just looking over the questions Sean posed in track changes from the 8/20/2020 email attachment. Do you think you could respond to his questions in track changes and send back? Also, thank you for the Cormix report that is helpful. It's my first time seeing a Cormix report. If I'm understanding it correctly the chronic and acute mixing zone distances are described as the x distances columns in Table 2?

Thank you,

Cara Christofferson (she/her)

U.S. Fish and Wildlife Service

Fish and Wildlife Biologist

IFWO-North Idaho

11103 E. Montgomery Dr.

Spokane Valley, WA 99206

Cell: (515) 520-7525

NEW ADDRESS as of 11/11/2020:

3232 W. Nursery Road
Coeur d'Alene, ID 83815

From: Nickel, Brian <Nickel.Brian@epa.gov>
Sent: Wednesday, October 28, 2020 4:43 PM
To: Hacker, Christina M <christina_hacker@fws.gov>
Cc: Christofferson, Cara E <cara_christofferson@fws.gov>; Stoddard, Jamey <Stoddard.Jamey@epa.gov>; Sweeney, Sean P <sean_sweeney@fws.gov>
Subject: RE: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments

Christina:

The mixing zone wasn't the only outstanding concern, but it was one of the more significant ones.

I expect to send a final BE and request consultation in November.

Thanks,

Brian Nickel, E.I.T.

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From: Hacker, Christina M <christina_hacker@fws.gov>
Sent: Wednesday, October 28, 2020 4:33 PM
To: Nickel, Brian <Nickel.Brian@epa.gov>
Cc: Christofferson, Cara E <cara_christofferson@fws.gov>; Stoddard, Jamey <Stoddard.Jamey@epa.gov>; Sweeney, Sean P <sean_sweeney@fws.gov>
Subject: Re: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments

Hi Brian,

Sean no longer works for our office. He moved to another FWS position last month. Thank you for the clarification. I am somewhat familiar with this project, but Sean did provide comments and worked directly with you on this. Since he is no long with our office, this project will be assigned to another biologist. Cara has worked with your office on other NPDES permits she may be able to determine if this information answers the comments Sean raised.

Is the mixing zone topic the only outstanding concern or are you still working to respond to comments and finalize the BE? When would you anticipate sending the final BE?

Thanks,

Christina Hacker
Supervisory Biologist
U.S. Fish and Wildlife Service
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Cell Phone: 208-215-0487

NEW ADDRESS as of 11/11/2020:

3232 W. Nursery Road
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From: Nickel, Brian <Nickel.Brian@epa.gov>

Sent: Wednesday, October 28, 2020 3:54 PM

To: Sweeney, Sean P <sean_sweeney@fws.gov>

Cc: Christofferson, Cara E <cara_christofferson@fws.gov>; Hacker, Christina M <christina_hacker@fws.gov>; Stoddard, Jamey <Stoddard.Jamey@epa.gov>

Subject: [EXTERNAL] RE: PotlatchDeltic NPDES draft BE comments

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Sean, all:

Regarding the comment you made about mixing zones, on Page 3-1 of the draft BE, I have done some modeling of the discharge using the Cornell Mixing Zone Expert System (Cormix). The attached draft memo summarizes the results, and I plan to incorporate this information into the BE.

The most important finding was that the mixing zone for acute criteria in the preliminary draft permit may not have prevented lethality to organisms passing through the mixing zone. So, using the model results, I have worked with the Tribe to establish a smaller acute mixing zone which meets the criteria recommended in the EPA's Technical Support Document for Water Quality-based Toxics Control for preventing lethality to passing organisms. The memo also lists the downstream distance

necessary to achieve the chronic dilution factor proposed in the preliminary draft permit (38.9:1) under several scenarios for ambient and effluent flow/velocity and temperature.

Let me know if this is helpful in addressing your question about better defining the mixing zones.

Thanks,

Brian Nickel, E.I.T.

Environmental Engineer

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From: Sweeney, Sean P <sean_sweeney@fws.gov>

Sent: Thursday, August 20, 2020 4:01 PM

To: Nickel, Brian <Nickel.Brian@epa.gov>

Cc: Christofferson, Cara E <cara_christofferson@fws.gov>; Hacker, Christina M <christina_hacker@fws.gov>

Subject: PotlatchDeltic NPDES draft BE comments

Hi Brian, please find attached the draft BE for the PotlatchDeltic NPDES permit with the Service's comments in track changes. Thank you for providing us an opportunity to review the draft. Moving forward, please continue to coordinate w/ Christina and Cara on this consultation.

Thanks,

Sean P. Sweeney

Endangered Species Biologist

U.S. Fish and Wildlife Service

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